

Content of some micronutrients in selected fruits. A comparison between new and former values in the Norwegian Food Composition Table

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Background

Oranges, bananas, apples, pears and grapes represent about 86 % of the total intake of fresh fruits in Norway according to wholesale statistics, and 90 % of all fruits available for domestic consumption are imported (1). In the continuous effort to update the Norwegian Food Composition Table (NFCT) samples of domestically grown fruits were analysed in 1958 and 1992-1994, whereas samples of imported fruits were analysed in 2001.

Aims

To compare the analysed content of vitamin C, folate and potassium in oranges, bananas, apples, pears and grapes sampled from Norwegian food stores, with published values in the latest and former editions of the NFCT.

Methods

Imported oranges, bananas, apples, pears and grapes were sampled in Bergen, Norway at four times between June 2001 and February 2002. Two composite samples were analysed in duplicate for each type of fruit and sampling occasion, and each composite contained fruits collected from 3-5 different food stores. The content of vitamin C was measured by HPLC electrochemical detection as the sum of ascorbic acid and dihydro-ascorbic acid, folate was measured by microbiological assay and potassium by flame AES. The analytical work was performed at the Institute of Nutrition under the Directorate of Fisheries, Bergen.

Results

New analytical values for imported fruits correspond well with current and former NFCT values per 100 g gram edible weight for domestically grown fruits as well as values borrowed from foreign food composition tables, as shown for oranges and apples in the table. Apples and pears grown in Norway appear to have a somewhat higher content of vitamin C than imported apples and pears. This may be due to different varieties and/or different cultivating conditions.

Table: Nutrient contents of imported fruits compared to new and former values in the Norwegian Food Composition Table

Fruit	Analysis (n)/ source borrowed value	Vitamin C	Folate	Potassium
		mg	µg	mg
		Mean (range)	Mean (range)	Mean (range)
Oranges				
Imported	2001-2 (7)	51(42-58)	28 (21-33)	193 (133-318)
NFCT 2001	UK 1992	54 (44-79)	31	150
NFCT 1991		50	-	173
NFCT 1960		55	-	
Apples				
Red, imported	2001-2 (4)	2 (1-4)	1 (1-2)	149 (107-231)
Green, imported	2001-2 (4)	4 (3-4)	1 (1-1)	145 (110-213)
NFCT 2001	1992-3 (6)	10 (4-19)	1 (1-2)	133 (93-183)
NFCT 1991	1958	6	-	130
NFCT 1960	1958	10	-	-
Pears				
Imported	2001-2 (8)	3 (2-4)	7 (4-11)	212 (137-411)
NFCT 2001	1992-3 (4)	8	4	164
NFCT 1991	1958	4	-	125
NFCT 1960	1958	5	-	-
Bananas				
Imported	2001-2 (9)	10 (7-13)	15 (13-19)	448 (329-584)
NFCT 2001	UK 1992	11	14	400
NFCT 1991		9	-	360
NFCT 1960		11	-	-
Grapes				
Blue, imported	2001-2 (4)	2 (1-2)	6 (3-9)	261 (221-362)
Green, imported	2001-2 (4)	2 (1-3)	5 (3-7)	289 (227-445)
NFCT 2001	UK 1992	3	2	210
NFCT 1991		4	-	191
NFCT 1960		5	-	-

Reference

1. Sosial- og helsedirektoratet (2003). Utviklingen i norsk kosthold. Matforsyningsstatistikk og Forbruksundersøkelser. IS-1144 (www.sef.no/assets/13002432/utv2003stor.pdf)

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